USA ASC

From the Acquisition Support Center Director

The Honorable Kenneth J. Kreig, Under Secretary of Defense for Acquisition, Technology and Logistics (USD(AT&L), has set a goal for the DOD acquisition workforce to become a "high performing, agile and ethical workforce." Our intent is to meet or exceed this expectation for our own Army Acquisition, Logistics and Technology (AL&T) Workforce. In April 2006, Army Acquisition Executive and Assistant Secretary of the Army for Acquisition and Technology (ASAALT) Claude M. Bolton Jr. approved the Army Acquisition Human Capital Strategic Plan (HCSP) to provide the direction to transform the Army AL&T community into a more diverse and versatile workforce, better postured to support the Army's mission. It also establishes a forecasting framework to assess the "health" of Army acquisition and provides important human capital insights to our acquisition leaders.

The ASAALT Balanced Scorecard™

The Balanced Scorecard is a strategic road map used to accomplish the AL&T mission. It's comprised of five overarching strategic objectives (end results) including completely aligning with the USD(AT&L's) goal of shaping a high-performing, agile and ethical workforce. It also explains the ways and means this goal is to be achieved:

• Promote Army Acquisition Corps (AAC) leadership development.
• Promote workforce professional development.
• Match the workforce to the work requirement.
• Promote a professional military acquisition corps.
• Resource the acquisition workforce.

We are aligning and integrating our goals with the DOD human capital indicatives with our HCSP by creating a more flexible acquisition professional through the ASAALT Competitive Development Group Program. This plan creates leaders with a broader perspective through diverse experiences and advanced leader development training. We are establishing a comprehensive, data-driven workforce analysis and decision-making capability by using Lean Six Sigma, the National Security Personnel System and Balanced Scorecard

to ensure the use of measurable desired outcomes to guide progress in our programs.

The U.S. Army Acquisition Support Center (USAASC) objective to maximize the Army acquisition automation tools to enhance career planning and development has some promising innovations to streamline our career management process. One example is a certification process that automates coursework completion and continuous learning point posting, has Acquisition Career Record Brief edit capability and features virtual *Defense Acquisition Workforce Improvement Act* (*DAWIA*) certification.

We are targeting promotion of professional development for military and civilian personnel by matching the workforce to the Army's needs by creating a supervisor outreach program to assist acquisition supervisors in guiding the professional development of their people. Also, we are constantly communicating our message to the AL&T Workforce through *Army AL&T* Magazine, *Army AL&T Online Monthly* and the newly reconstructed USAASC Web site. Additionally, LTG N. Ross Thompson, Military Deputy to the ASAALT and Director for Acquisition Career Management, and his predecessors have traveled to our acquisition communities to keep an open dialogue with the workforce.

Various Army initiatives and routines readily support the USD(AT&L) goals, including the Army Acquisition Career/Leader Development Program. This program has three progressive developmental levels for employees to move forward throughout their career and develop competitive qualifications as well as functional leadership competencies:

• Technical foundation is the base for development that is accomplished by achieving Level III certification and acquiring a thorough understanding of the technical aspects of their respective acquisition career fields (ACFs).
• In the broadening experience stage, employees strive to develop multifunctional knowledge and awareness and to obtain Level II certification in an additional ACF.
• Once assigned to positions at the strategic leadership level, success is dependent on acquired skills.

To ensure that the proper training is available for developing tomorrow's strategic leaders, adequate resources are required.

Resource Management Challenges

AAC education is funded through Operations and Maintenance Appropriation (VAQN) —"Funds Education, Training, Experience and Assignments Necessary for Career Progression

for Military and Civilian Members of the AAC." The FY07 HQDA Critical President's Budget (PB) is $6.109 million. The current PB funding position is $4.803 million. The final VAQN is $4.74 million and is based on the final funding letter dated Nov. 13, 2006. This brings a year of execution challenges including:

- Incremental funding that causes timing issues with conducting boards and class registration.
- Vice Chief of Staff of the Army (VCSA) Operations and Maintenance Army restrictions to travel, conferences and training reduces effectiveness, and VCSA memo restricting hiring to current Army civilians unless a waiver is approved to hire from outside the federal government.
- Requirements growth creates shortfalls for functional area (FA) courses.

AAC funds for education, training, experience and assignments are essential for career progression for military and civilian AAC members per *DAWIA Title 10, U.S.C., Chapter 87*. This includes advanced degrees, leadership training, operational experience and developmental rotation broadening assignments from accession through all stages of career progression leading to the most senior acquisition positions. Funding provides a framework for the AAC's continuing educational and professional development requirements per *DAWIA* and the USD(AT&L) policy on continuous learning for the Defense Acquisition Workforce.

Army Acquisition Certification Status

The first indicator on the "health" of the AL&T Workforce's professional development is certification for the work being done. Based on our data as of Dec. 31, 2006, the distribution of the Army military and civilian acquisition personnel by acquisition position category for those certified for current position requirements, is only 38 percent of the total Army acquisition workforce meeting position requirements for certification. Based on available service data from early FY06, the Army lags the other services in this area.

The systems planning, research, development and engineering and contracting career fields are nearly 50 percent of the acquisition workforce and 62 percent of the required certifications. Business, cost estimating, financial management and life-cycle logistics have relatively major densities in the workforce and comparatively low certification levels. We have instituted a Supervisor Outreach Program to educate and enable acquisition supervisors on acquisition career development requirements and have personally engaged the senior leaders in the Army acquisition community to

support and enforce acquisition professional development. We fully expect marked improvement in all areas this year and for many years to come.

Certification Training

The Army needs to make a stronger commitment to certification training to ensure our workforce's continued professional development. At the beginning of each fiscal year, the Army communicates its training needs to the Defense Acquisition University (DAU). The Army submitted its FY08 request to DAU the first quarter of FY07. In FY08, the Army is requesting nearly 11,000 resident quotas. If recent past performance is any indication, the Army will use all of the quotas it's allocated. The Army Quota Managers take every opportunity to place students seeking training into classes.

Theoretically, DAU resident quotas are a finite resource. In truth, DAU is adept at adding capacity to accommodate service needs during the academic year. In FY06, DAU added approximately 1,720 resident quotas. The Army was able to make good use of all available quotas, above and beyond the allocation, and continued to fill necessary resident courses as long as the Army could afford the inevitable temporary duty (TDY) costs. Approximately 40 percent of Army resident quotas are filled by students who must travel.

Budget challenges aside, the Army continued to send acquisition workforce members to certification training, and we will continue to do so. Routinely, program executive offices (PEOs) and other commands pay the TDY cost associated with certification training when the DAU training budget is constrained. In fact, to ensure there are ample DAU funds in FY07, the Army is allocating its managed DAU dollars only to priority 1 students. The commands of priority 2 students and above pay their own way. This may change if more training dollars become available, but this prudent policy is in line with the other services' practices and helps to ensure we don't have to turn away critical priority 1 students.

DAU allocated an additional $200,000 to the Army for DAU training in 2006. But even then, USAASC contributed an additional $360,000 to meet workforce training demands. Aside from the funding that PEOs, other commands and USAASC contribute, the Army also funds and provides DAU training through the Army Logistics Management College, Huntsville, AL, to its newly assessed acquisition personnel at the Basic Qualification Course (BQC). Students receive a Level II education in program management and contracting. The FY06 BQC cost the Army $2,342,042 with more than half that cost coming from

TDY costs. This proved to be an acceptable manner in which to conduct the necessary training required for certification, but we are always looking for alternate forms of education that lead to employee certification but at lower overall cost to the government.

In addition to DAU training, the Army has developed and initiated many additional programs to develop an agile and ethical acquisition workforce including FA51, CP-14 Senior Leadership Development and Career Program 40 courses.

Preferred Outcomes

The following is the Balanced Scorecard's desired end state:

• To promote professional development and ensure that educational and developmental opportunities are the right ones for the acquisition workforce.
• To provide training and education that actually enhances professional development.
• To increase employees' job satisfaction, build a better "bench" and get the right people in the right job at the right time.
• To retain a skilled and experienced workforce through our Senior Service Schools and provide proper placement after graduation.

By following these criteria, the Army will create agile, multi-functional acquisition professionals prepared to successfully lead and manage complex acquisition organizations and project management challenges in constrained resource environments.

For more HCSP information, contact David Duda at (703) 805-1243/DSN 655-1243 or **david.duda@asc. belvoir.army.mil**.

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Practical Project Management: What is the Program's Technology Management Plan?

COL John D. Burke

A Milestone B or C decision or, best of all, a full rate production go-ahead is quite an accomplishment for a project manager (PM). Once a PM has achieved one of these peak events, the inevitable "good idea" factory will go into full steam. These good ideas could include new engines, new software, sensors, payloads, commonality with other platforms, simulations, models, logistics monitoring devices, maintenance improvement equipment and human factor engineering. Of course, most of these come with limited funding and the expectation that the host platform will help fund the technology transition.

How does a PM manage technology to take advantage of candidate program improvements while preserving the program's approved cost, schedule and performance goals? The PM has to be in front of the technology curve and determined not to react and induce program disruption. Successful technology planning depends on *anticipation, feasibility, best-value evaluation* and *timing*.

Anticipation

A technique to catalogue and index the various candidate technologies is the Technology Assessment Transition Management (TATM) process. This model was used in the Unmanned Aircraft Systems (UAS) Project Management Office (PMO), then expanded to Program Executive Office (PEO) Aviation and eventually to PM Joint Robotics Office (Unmanned Ground Vehicles). The TATM is based on the Defense Acquisition University method that will assist a project office upon request. TATM Proof of Concept can be found online at **https:// acc.dau.mil/CommunityBrowser.aspx?id=142628**.

The PM or PEO can use the TATM to identify the core program with each of the sources, maturity and eventual cut-in of various technologies. Candidates can come in response to safety or obsolescence, from planned product improvements or from other federal agency research and development (R&D) and industry internal R&D investments. The value of a single "horseblanket" depiction of all the technology candidates shows the time-to-event alignment of new technologies in context of the core program.

When technology candidates are proposed for inclusion into your program, the top level questions should be:

- What identified need does this technology satisfy? For example, the need to meet DOD or legal mandates for smart identification tags.
- Is the proposal funded by the offering organization to include transition and engineering support? Often the funding for a technology candidate is only for the B-Kit.
- Are there other competing candidates that can meet the mission with less risk, cost or complexity?
- How does the technology candidate's timing relate to the established program schedule? For example, if a technology matures in the middle of a block cycle on major weapon systems with block upgrades programmed 3-5 years in advance, then the next opportunity may be 5-7 years later.
- Who is the champion of the initiative?

Feasibility

The Technical Readiness Level (TRL) is one means to apply a standard against the candidate technology. TRL of 1-4 typically means the technology is undergoing basic engineering and scientific principles to prove-out in a prototype at the lab. TRL of 5-7 represents the levels of maturity where serious consideration for inclusion on the platform should occur. An excellent TRL paper is located at **http://www.acq.osd.mil/dpap/Docs/AQ201S1v10Complete.pdf**. [Note: Use upper case letters where shown.]

The PM has to establish a screening process for the individual technology candidate such as an improved electro-optic (EO) and infrared (IR) sensor fusion software. What is the maturity of the individual software? Has the design been vetted with the platform and other intra-system components? How will we test and evaluate on an individual basis and then on a system level? How should fleetwide dissemination of the software and training of users and maintainers be accomplished?

Feasibility criteria for a PM boils down to a go/no-go criteria. Is the proposal in the program office's best interest, and are resources available to form a technology insertion team — usually an ad-hoc team — to evaluate the technology for more development? The PM must remember that each of these technologies has constituent interests from industry, other federal agencies and even Congress. Thus, the criteria and means to adapt technologies should be consistent and clear to all concerned, as you will be asked to defend your decisions later on.

To evaluate potential technology candidates for a common EO/IR and laser designation sensor for the ARH and Warrior UAS, the PM used TATM to conduct a best-value evaluation. Here, an OH-58D Kiowa Warrior helicopter from 1st Battalion, 4th Cavalry Regiment, 1st Infantry Division, provides cover for troops on the ground in Samarra, Iraq. (U.S. Air Force (USAF) photo by SSGT Shane A. Cuomo, 1st Combat Camera Squadron.)

Best-Value Evaluation

When the TATM list of all candidate technologies is shown from present to 3, 5 and 10 years out, the maturity-to-time relationship becomes evident. The further out technology TRL 7 is achieved, the less certain the technology will prove-out today. This is a normal time/value relationship that can be normalized in terms of risk and economics.

To evaluate a candidate technology like multi-spectral fusion, the PM team should use the existing cost of the EO/IR sensor on the system today as a base case. Similar to discounting a financial note due in 5 years, create the high and low spread of cost and complexity of the future capability against today's sensor. If the payoff is below the cut-line then the candidate technology should be rejected. An alternative is developing a plan to decrease either the maturity or cost risk and rerun the analysis.

The process described above was used to develop the Army approach for a common EO/IR and laser designation sensor used for the Armed Reconnaissance Helicopter (ARH) and the Warrior UAS system. The multidisciplined team met over the course of 12 months with periodic reviews with the Army Vice Chief of Staff and the Army Acquisition Executive. We reduced the cost and performance variance of a common sensor to an acceptable trade-off when compared to the existing strategy of pursuing two separate sensors for two separate platforms.

Timing

Trying to synchronize the weapon system platform, sub-systems and then technology candidates is a time-intensive task. Each element has multiple organizational, financial and technical aspects. When multiplied across a complex weapon system, PMs can find themselves in situations where only the most intensely marketed technology candidates are brought forward.

The program budget build or Program Objective Memorandum (POM) process begins in the fall of the year for the budget year 2-7 years out. PMs will begin their program

POM submission in October 2007 for the FYs 10-15 POM period. When the POM submission timeline and the TATM spreadsheets are overlaid, PMs can easily see when to include technology transitions in the POM submission. This kind of overlay is essential to show a cohesive adaptation of technology into the base program.

Organizing for Technology Transition

The aviation community established a general officer board with the commanding generals of the U.S. Army Aviation Center and the U.S. Army Aviation and Missile Command, with PEO Aviation and the Director of the Aviation and Missile Command Research and Development Engineering Center as the signatories. This group meets twice a year to review and prioritize the Aviation Science and Technology and R&D initiatives and candidates.

The PM is responsible for signing technology transfer agreements (TTAs) for initiatives coming out of the Army R&D command or the Defense Advanced Research Projects Agency with their counterpart in these commands. The inherent power of signing or not signing these TTAs is the credibility given to the R&D proposal showing the target host platform is committed to transitioning the technology.

The PM has to determine which part of the office will be responsible for technology transition. Depending on the interest and disposition of the PM and Deputy Project Manager (DPM), either the DPM or Engineering Division Chief is the responsible official. As a PM, I decided to lead the technology assessment team consisting of key leadership within the PMO. A PM should expect that one or two seasoned engineers with multidisciplinary experience are needed in an acquisition category (ACAT) I or basket project office to manage the TATM process, answer queries about new technology and conduct program level assessments of new ideas.

Managing the Process

Managing technology insertion is a necessary function for successful programs. A PM has to anticipate, assess for feasibility and value and then time the insertion to gain maximum performance at the least disruption and cost. ACAT I and basket project offices have to set aside managerial and engineering time and resources to set up a disciplined and repetitive process. That process succeeds with defined criteria on how technology candidates will be assessed, prioritized and included in the base program plan.

A successful PM will establish the required oversight, understand the various interests and accept the intensity of organizations and people who want to help improve the base program through technology insertion. Success is a positive response to the rhetorical question "Am I managing the program's technology or is it managing me?"

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Our author points out, "successful technology planning depends on anticipation, feasibility, best-value evaluation and timing." The UAS PMO used these techniques and the TATM process on several very successful product launches. Here, CPL Jerry Rogers, 1st Battalion, 13th Armor Regiment, 3rd Brigade, 1st Armored Division, assembles a Raven UAS near Taji, Iraq. The Raven is being used to track potential insurgent forces operating in the vicinity. (USAF photo by TSGT Russell E. Cooley IV, 1st Combat Camera Squadron.)